

REMARKS

Claims 1, 8, 15, and 22 remain for reconsideration. Claims 2-7, 9-14, 16-21, and 23 have been cancelled in view of the finality of the restriction requirement.

With regard to the prior art rejections, they stand as follows:

1. Claims 1 and 8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by USP 6,222,861 to Kuo.

2. Claims 15 and 22 stand rejected under § 103(a) as being unpatentable over Kuo, as above, further in view of US Published application 2004/0131102 to Jette.

These rejections are respectfully traversed based on the following discussion.

Briefly, a controller comprises a high bandwidth mode and a low bandwidth mode. When initially locking to a new channel, the high bandwidth controller mode may be used to supply more energy to drive tunable etalon (i.e. filter) to achieve faster seeking. When an error signal approaches within a pre-defined threshold of zero error, the controller may be switched to a lower bandwidth mode supplying less power to a temperature controlled sled to softly approach the target frequency and avoid overshoot. The lower

bandwidth controller mode may keep the noise level lower and provide better frequency tracking stability to the tunable laser.

Previously, the claims recited the controller having a high and low bandwidth mode for tuning the laser. As amended, it has been further specified that course adjustments are made in the higher bandwidth mode driving the etalon and fine tuning adjustments are accomplished in the lower bandwidth mode driving the temperature controlled sled.

Support for this may be found in the specification as filed at the end of paragraph [0039] wherein it states “*As a result, controlling the temperature of the sled can be used to adjust the frequency of the lasing mode. In general, temperature control of the sled will be used for very fine tuning adjustments, while coarser tuning adjustments will be made by means of tuning filter elements 110...*”. Thus, no new matter as been added.

The primary reference to Kuo, appears to shows a “loop filter” driven in one of two modes; wide mode and narrow mode. Column 6, lines 44-50 indicate: “In one embodiment, loop filter 216 can be implemented as a programmable element to allow adjustment of the loop response based on the system requirement. For example, initially, the loop response can be set wide for increased likelihood of acquisition and quicker settling time. Once the wavelength of laser 112 has been approximately adjusted to the specified wavelength, the loop response can be narrowed for improved tracking and

phase noise performance” (emphasis added).

However, both the “coarse” and “fine” tuning of Kuo appear to rely on the adjusting the transfer function of a “loop filter”. In contrast, Applicant’s course tuning in high bandwidth mode is carried out with an etalon and the fine tuning in low bandwidth mode is carried out with a temperature controlled sled.

Applicant’s claim 1 and similarly independent claim 15, now recite “a temperature controlled sled to tune the ECDL; an etalon to tune the ECDL;...said controller to initially drive said etalon in said high bandwidth mode for course tuning adjustments and then in said lower bandwidth mode to drive said temperature controlled sled for fine tuning adjustments when an error signal associated with a target frequency is within a threshold range.

Applying the high bandwidth mode to one tuning element and the lower bandwidth mode to a second type of tuning element is not taught or suggested by Kuo.

The Examiner appears to rely on Jette merely for showing the existence of external cavity diode lasers (ECDL). However, it is respectfully noted that this reference also does not teach or suggest applying the high bandwidth mode to one tuning element and the lower bandwidth mode to a second type of tuning element as indicated by the claims.

As such, Kuo does not anticipate the claims under § 102(b) nor does

the combination of Kuo and Jette make obvious the claims under § 103(a). As such, it is respectfully requested that these rejections be withdrawn.

In view of the foregoing, it requested that the application be reconsidered, that claims 1, 8, 15, and 22 be allowed and that the application be passed to issue. Please charge any shortages and credit any overcharges to Intel's Deposit Account number 50-0221.

Respectfully submitted,

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